

NOTICES OF SOME UNDESCRIBED INFUSORIA, FROM
THE INFUSORIAL FAUNA OF LOUISIANA

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(Being a continuation from page 68 of the Proceedings for 1897.)

FAMILY TETRAMITIDÆ Kent.

GENUS TETRAMITUS Perty.

Tetramitus oralis. Sp. n. Plate IV., Fig. 1.

Body sub-obovate normally, soft and very changeable in shape; usually more than one and a half times longer than wide; the anterior extremity obliquely truncate and excavate for a variable distance on the ventral surface; posterior extremity very changeable; four flagella, as long or longer than the body, originating together on the anterior border at the summit of the truncation, and usually directed downward; oral aperture simple and located at the inferior extremity of the truncation; contractile vesicle distinct and situated in the posterior body-third near the ventral surface; nucleus roundish and in the anterior body-third; endoplasm granular.

Length from 1-1000 to 1-600 inch; habitat, an old infusion.

This form was found on several occasions very numerous in an old infusion, in company with an abundance of bacteria, on which it was feeding very ravenously. Its shape changes constantly while thus feeding, and often the excavate truncation would become the anterior border. With a $\frac{1}{4}$ objective the oral aperture could be easily located by the continual entrance of the bacteria and the formation of food vacuoles at that point; these vacuoles were often quite numerous and would circulate through the endoplasm for sometime before disappearing.

The family Tetramitidæ includes only the pantostomatous forms, and will therefore exclude this species, but the great resemblance it bears to the *Tetramitus decissus* Perty is the writer's excuse for placing it with this family provisionally.

FAMILY ENCHELYIDÆ Kent.

GENUS ENCHELYS Ehrenberg.

Enchelys vermicularis. Sp. n. Plate IV., Fig. 2.

Body sub-clavate, cylindrical, soft but persistent in shape; about three times longer than wide; annulated distinctly so as to appear as if segmented; between the annulations, the body is encircled with a single row of fairly stout hispid setae; body entirely covered with quite long and active cilia; simple oral aperture apical; contractile vesicle near the posterior border; nucleus roundish and sub-central; endoplasm hyaline and granular; movement rotary and worm-like.

Length, 1-550 inch; habitat, the brackish waters of Lake Pontchartrain.

GENUS TILLINA Gruber.

Tillina distincta. Sp. n. Plate IV., Fig. 3.

Body sub-reniform, compressed, plastic but persistent in shape; less than twice as long as wide, clothed with short cilia; longitudinally striate; trichocysts abundant; oral aperture situated in the anterior body-half some distance from the anterior border, in a cleft-like depression on the ventral surface; this aperture continued dorsal-ward for some distance as a ciliated and capacious pharynx; the oral cilia a little larger than the body cilia; contractile vesicle in posterior fourth; nucleus round to ovate and sub-central; anal aperture on the ventral surface near the posterior border; endoplasm granular and usually containing an abundance of food.

Length, 1-200 inch; habitat, ditch water.

The activity of the oral cilia is apt to lead one to believe that there is a small membrane there, but the contrary can be easily demonstrated.

Tillina megastoma. Sp. n. Plate IV., Fig. 4.

Body somewhat bean-shaped; much compressed; anterior and posterior borders rounded; plastic but persistent in form; twice as long as wide; clothed with fairly long cilia and longitudinally striate; oral aperture located at the upper extremity of the usually straight ventral surface, just below the anterior border, and is continued dorsal-ward, as a very capacious and strongly ciliated pharynx, which curves slightly downwards as it nears the dorsal border; contractile vesicle large and in posterior body-fourth; nucleus very granular, roundish and sub-central; endoplasm granular.

Length, 1-160 inch; habitat, brackish waters of Lake Borgne.

This *Tillina* was taken with every collection from a certain spot in Lake Borgne and was usually found in company with *Litosolenus armatus* of Dr. Stokes.

The writer takes this occasion to mention that the forms of *Litosolenus armatus* found here, range much larger in size than those recorded by Dr. Stokes as found at Long Island. He records 1-150 inch as the maximum size, while the forms found here measured 1-90 inch. The longitudinal striations of the body are not due to the arrangement of the cilia, but to some granular elements of the endoplasm. The very large and densely ciliated pharynx seems to cut the body in twain. It is a very active feeder and usually contains a number of diatoms and desmids.

Tillina granda. Sp. n. Plate IV., Fig. 5.

Body sub-reniform, compressed, elastic and slightly changeable in shape; about twice as long as wide; clothed with fine cilia; faintly striate longitudinally; trichocysts abundant; oral aperture in the nearly central ventral depression, and continued as a crescent-shaped pharynx, which is densely ciliated; contractile vesicle near the posterior border; nucleus ovate, in the anterior body-half and near the dorsal border; anal aperture on the ventral surface near the posterior border; endoplasm brownish and usually containing food balls.

Length, 1-90 inch; habitat, ditch water.

This form differs from *Tillina magna* of Gruber, in not possessing the posterior lobate process, which includes the contractile vesicle. It is also very much larger than *T. magna*. At times the concavity disappears and both of its lateral borders are alike. They were taken in large numbers from ditch water; some had the faint longitudinal striations, while others lacked this peculiarity.

FAMILY LEMBIDÆ Kent.

GENUS LEMBUS Cohn.

Lembus ornatus. Sp. n. Plate IV., Fig. 6.

Body elongate-clavate; cylindrical; elastic and from five to six times longer than wide; distinctly annulated; an undulating membrane and a furrow originating near the apex, extend backward on the ventral surface to near the body-center, where it meets the simple oral aperture; this undulating membrane finely striated transversely; body covered with fairly large and active cilia; oral and body cilia not diverse; a single long seta extending from the caudal extremity; contractile vesicle near the posterior border; nucleus elongate and sub-central; endoplasm bluish and granular; reproduction by transverse fission.

Length, 1-350 to 1-210 inch; habitat, brackish waters of Lakes Pontchartrain and Borgne.

The very noticeable difference existing between this form and those hitherto recorded is in the finely striated undulating membrane; these striations are good tests for a $\frac{1}{4}$ objective. The membranes of the largest forms were usually ragged on their free borders. They are abundant and were sometimes found in company with *Chlamydoxon mnemosyne* Ehr.

FAMILY TINTINNODÆ Clap. and Lach.

GENUS STROMBIDINOPSIS Kent.

Strombidinopsis paradoxus. Sp. n. Plate IV., Fig. 7.

Body thimble-shaped, soft and changeable in form; cylindrical; posterior border round and anterior border transversely

truncate; less than twice as long as wide; peristome simple and bearing a single circle of heavy setose-like cilia, which are as long as a half-body length; disk slightly convex and appearing to open and close the oral aperture by its elevation and depression; oral aperture on one side of the disk and continued downwards as a non-ciliated pharynx; body clothed with very fine cilia, those only immediately below the peristome very evident; contractile vesicle large, in anterior body-half and near the border opposite the oral aperture; nucleus ovate, in posterior body-half just below the pharynx; anal aperture debouching on the pharynx as in *Vorticella*; endoplasm very granular and usually containing much food; reproduction by transverse fission.

Length, 1-550 inch; habitat, fresh water.

This form was found, in company with *Hymenostoma hymenophora* Stokes, in several collections of water taken from a fish pond in one of the public buildings of New Orleans. In activity, it surpasses the *Urocentrum turbo*. Diatoms, unicellular algæ and small infusorians are consumed by it in large quantities. As a precedent to its feeding, it attaches itself to the slide, an algal filament or debris, by means of a caudal-like filament of its body, which filament sometimes exceeds the body in length. Transverse fission is ushered in by the appearance, at the body center and on the same side as the contractile vesicle, of a circle of setose-like cilia.

PLATE IV.

- Fig. 1. *Tetramitus oralis* n. sp.
Fig. 2. *Enchelys vermicularis* n. sp.
Fig. 3. *Tillina distincta* n. sp.
Fig. 4. *Tillina megastoma* n. sp.
Fig. 5. *Tillina granda* n. sp.
Fig. 6. *Lembus ornatus* n. sp.
Fig. 7. *Strombidinopsis paradoxus* n. sp.